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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,590	07/01/2003	Timothy B. Dean	ATD00007 9640/126	6129
30016	7590	08/05/2004	EXAMINER	
CARDINAL LAW GROUP, LLC SUITE 2000 1603 ORRINGTON AVENUE EVANSTON, IL 60201			ROCCHIGIANI, RENZO	
			ART UNIT	PAPER NUMBER
			2825	

DATE MAILED: 08/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/612,590	<b>Applicant(s)</b> DEAN ET AL.	
	<b>Examiner</b> Renzo N. Rocchegiani	<b>Art Unit</b> 2825	<i>Am</i>

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 June 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3 and 5-22 is/are pending in the application.
- 4a) Of the above claim(s) 10-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-9, 17-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 5-9 and 17-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,616,967 B1 (Test) in view of U.S. Patent No. 6,445,069 B1 (Ling et al.).

Test discloses a integrated circuit device wherein a copper contact pad, over a silicon substrate (col. 1, lines 35-40), is covered with a layer of electroless nickel, then a layer of electroless platinum, over the palladium is a layer of immersion gold and over the immersion gold layer is an electroless gold layer. (col. 4, lines 22-30 and col. 5, lines 20-34). Test further discloses that the nickel layer may be about 0.3-0.5 um thick (col. 5, lines 60-62), the palladium layer may be about 0.1 and 0.3 um thick (col. 5, lines 25-28), the immersion gold layer about 40 to 80 nm (i.e. 0.04 to 0.08 um) thick (col. 5, lines 30-31) and the electroless gold layer (referred to as "autocatalytic gold") about 0.5 to 1.5 um thick. (col. 5, lines 31-35). While the disclosure relates to an individual contact pad, Test discloses that it is applicable to a plurality of contact pads. (col. 1, lines 35-40).

Test discloses that its invention is for copper contact pads and while it does not deny it, it does not state that it would be applicable to aluminum contact pads.

Ling et al. teaches an integrated circuit device wherein a copper contact pad over a silicon substrate is also covered with an electroless nickel layer, upon which an electroless palladium layer, upon which an electroless gold layer is deposited. (col. 4, lines 45-50 and col. 5, lines 1-30). Ling et al. further teaches that this same structure can be formed using an aluminum contact pad as opposed to a copper contact pad. (col. 3, lines 53-56).

It would have been obvious to one with ordinary skill in the specific art to make the device disclosed in Test using an aluminum contact pad as opposed to a copper contact pad, since Ling et al. teaches a very similar structure for the same type of device, since Ling et al. teaches that aluminum may be used instead of copper and still arrive at the same invention thus providing evidence that a worker in the art would have an expectation of success in making the substitution and since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

### ***Response to Arguments***

3. Applicant's arguments filed on June 2, 2004 have been fully considered but they are not persuasive. Applicant avers that the cited prior art does not render the pending claims obvious because it does not teach or suggest the limitation of "wherein the layer of electroless nickel is formed on the aluminum bond pad by a zinc displacement process." After taking into consideration applicant's arguments the examiner was not persuaded and has decided to maintain the rejections as previously presented.

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Applicant's arguments are well taken but they focus on the process of forming the device claimed. The examiner points out that the Patent Office abides by the holding of *In re Thorpe*, 777 F.2d 695 (Fed. Cir. 1985), and thus in examining device claims to determine patentability the process steps are not given weight. In this case, the applicant argues that the pending claims, which are device claims, are not rendered obvious because of the way the electroless nickel is formed. This is a process step and thus it is not deemed to distinguish the device claims from the prior art. Therefore, applicant's arguments are not persuasive and the rejection stands.

### ***Conclusion***

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

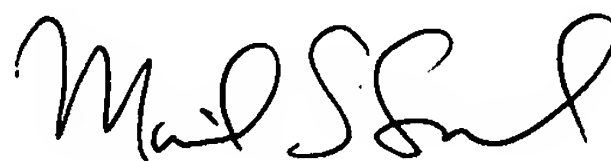
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Renzo N. Rocchegiani whose telephone number is (571)272-1904. The examiner can normally be reached on Mon.-Fri. 8:00 am - 5 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Smith can be reached on (571)272-1907. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Renzo N. Rocchegiani  
Examiner  
Art Unit 2825



MATTHEW SMITH  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800